

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)	
)	
Amendment of Part 97 of the Commission's)	RM-11306
Rules Governing the Amateur Radio Service)	
Concerning Permitted Emissions and)	
Control Requirements)	

**COMMENTS OF
GERALD M. KESSLER, N4JL**

Gerald M. Kessler (N4JL) hereby submits comments in response to the Petition for Rule Making in the above-captioned proceeding.

I. INTRODUCTION

I am a licensed amateur radio operator holding the Amateur Extra Class grade of operator license and the amateur radio station license of N4JL. I have continually been licensed and active in the amateur radio service for the past 45 years and maintain an avid interest in HF, VHF and UHF communications. I am a member of the American Radio Relay League, Inc., also known as ARRL, the National Association for Amateur Radio, the petitioner in the above captioned proceeding. My qualifications also extend to a

professional career in which I have been engaged in land mobile and fixed communications engineering and consulting for the past 35 years.

I am pleased to submit my comments in response to the Petition for Rule Making filed by ARRL, the National Association for Amateur Radio (ARRL). In its Petition, ARRL suggests a shift in regulatory philosophy from a “command and control model” to one that facilitates research, experimentation and refinement of Amateur Radio digital communications techniques and advanced technologies. ARRL also proposes to regulate amateur frequency bands by maximum bandwidth rather than specific emission modes, make it easier for new types of emissions to be introduced among incumbent modes, and eliminate the regulatory burden of applying rules to new technologies. Finally, ARRL seeks the flexibility to experiment with new digital transmission methods...while permitting present operating modes to continue to be used for as long as there are radio amateurs who wish to use them.

II. DISCUSSION

ARRL advances that there is a pronounced trend toward digital communications in the amateur service; that digital modes have only been accommodated within the current structure of Part 97 Rules; that bandwidth limitations have handicapped digital communication development and use; and that higher data rates are needed to support digital multimedia technology. While there is no doubt that the lines between data, image and voice communications are becoming blurred in today’s society, this trend is happening much more slowly in the amateur service. Unlike, the situation with wireless public safety or commercial services where advances in digital technology are leading to spectrum efficiencies, which result in benefits in system capacities, there is no real

marketplace demand to drive this technology beyond casual experimentation and no mandate or source of funding to expedite the investment in new digital communications equipment to accelerate such a program in amateur radio. Tuning the amateur bands on any given day, especially at HF, shows digital communications to be very much in the minority in terms of technologies used.

However, digital communications in amateur radio does have a place today and will certainly garner a more prominent role in communications of the future. Experimentation in digital modes should be encouraged and current FCC Rules should be modified to permit the experimentation and operation that will take amateur radio into the future. However, this advancement must be in harmony with the amateur service as it is embodied today by the prevalent types of amateur operations and will likely be for many more years to come. ARRL's suggestion that replacing mode regulation in the amateur service with bandwidth regulation is not the means to foster acceptance and growth of amateur digital communications.

Amateur radio is largely a personal form of communications, the majority of which is radiotelephone. Moreover, these communications are overwhelmingly conducted in analog modes. CW is also popular and is used considerably in weak signal communications, traffic handling, and building operator proficiency. It continues to be utilized to a significant extent in the amateur service. The current segregation of modes works well today to minimize interference that would otherwise result from mode incompatibility. Other than the 60-meter band, HF amateur communications are not channelized whereby it would be possible to guard against disparate technologies in adjacent bandwidths. Also, legacy and state-of-the-art amateur communications receivers do not possess the interference countermeasures that would be required for

operation of disparate modes on a non-channelized basis. ARRL contends that the most important parameter is the bandwidth of the transmitted signal. But, ARRL overlooks the affect of duty cycle in carrying out successful communications in adjacent bandwidths. Weak signal, low baud rate modes will be affected most by higher-speed digital formats under ARRL's integrated bandwidth proposal, but all forms of amateur communications are likely to suffer degradation in quality from interference caused by overlapping of incompatible modes.

There is no basis for a shift in regulatory philosophy from what ARRL calls a command and control model, when such model is working extremely well in regulating amateur operations. However, there is a need for reasonable accommodation of digital modes without the chaos that would result from the elimination of mode regulation. Without the structure of mode regulation, digital modes will tend to go against self-policing and create a hostile environment. Enforcement would be a problem, especially if station identification is embedded within the native digital emission. Those amateurs not digitally inclined or digitally equipped will not be able to decode the station identification of digital signals. Self-policing will give way, and many operators will operate out of character because they are hidden behind a veil of digital communications. I experienced such an incident first hand on February 3, 2005 after the release of the NASA Suit-Sat experiment from the International Space Station. On the frequency used for the experiment, I observed what appeared to be a station sporadically transmitting digital packet communications at such a received signal level that would overwhelm the weaker Suit-Sat signals. I did not have the equipment to decode the packet signal nor did I ever observe a station ID in a more common mode. Within a couple of days of this

experience, I overheard two local amateurs lamenting the fact that they, too, could not identify the packet station also occupying the frequency with Suit-Sat.

III. CONCLUSION

There is no basis for a shift in regulatory philosophy from what ARRL calls a command and control model, when such model is working extremely well in regulating amateur operations. However, there is a need for reasonable accommodation of modern digital modes with the expectation that there will be growth in these modes over time. To reasonably accommodate research, experimentation and refinement of amateur digital communications, I alternatively propose a compromise position on mode regulation and bandwidth regulation by providing for suitable spectrum within the amateur bands, which would allow for the advancement of digital modes on a regulation by bandwidth basis while containing this sub-band within the traditional scheme of mode regulation. Ideally, this sub-band would be placed in-between our traditional low baud rate modes of CW, RTTY and slower speed digital technologies and our traditional radiotelephone sub-band. Placement in the middle allows for adjustment and growth in either direction if digital modes take hold and legacy modes decrease in popularity.

Respectfully submitted,

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